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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,278	02/09/2004	Yoshiteru Yasuda	2004_0196A	8575

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EXAMINER

CHANG, CHING

ART UNIT

PAPER NUMBER

3748

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,278

Applicant(s)

YASUDA ET AL. 

Examiner

Ching Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the amendment filed on Dec. 20, 2004.

Claims 1-13 are cancelled, and new claims 14-27 are added as requested.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. ***Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (US Patent 6,032,630) in view of Nakajima et al. (US Patent 5,389,452).***

Yamamoto discloses a lash adjuster for use in a valve gear, comprising:
a lifter body (6) to be axially slidably mounted in a valve opening-and-closing transmission path to transmit a force from a cam (5) to a valve (3) through a valve stem (3a); a nut member (11, 12) on said lifter body, said nut member having female threads; an adjuster screw (13) having peripheral male threads engaging said female threads of said nut member, said adjuster screw being shaped and arranged to move axially by rotating within said nut member so as to automatically adjust a valve clearance; and an

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elastic member (15) for axially biasing said adjuster screw; wherein said female threads of said nut member and said male threads of said adjuster screw are each serration-shaped so as to have pressure flanks to be acted on by an axial push-in force to be applied to said adjuster screw and so as to have clearance flanks, a flank angle of said pressure flanks (18) being greater than a flank angle of clearance flanks (19).

Yamamoto discloses the invention as recited above, however, fails to disclose the said screw or nut being made by a material which would not react with organic molybdenum.

The patent to Nakajima on the other hand, demonstrates that it is conventional in the art of aluminum alloy, to utilize the aluminum alloy, a nonferrous metal made plate having a coating containing organic molybdenum, without an indication of a possible reaction between organic molybdenum and the said plate, and a structure change of the said plate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the aluminum alloy as taught by Nakajima to make the said screw and nut in the Yamamoto device, since the use thereof would provide an improved valve lash adjuster, retaining the same working relationship between its components, without a change under the influence of a working environment containing organic molybdenum.

3. Claims 16, 18-21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Nakajima (as applied to claim 14 above), and further in view of Anno et al. (US Patent 5,204,890).

The modified Yamamoto device, however, fails to disclose an alternative way of applying an extra layer on one or both of said adjuster screw and said nut member, or on the pressure side thread surface of one or both of them.

The patent to Anno on the other hand, teaches that it is conventional in the art of ceramic film, to utilize a ceramic film of nitride (Examples 3, 5, 11, 19, and 22), or a carbon film (Examples 5, 7, 9, 12, 15, 17, and 20), or an oxide film (Example 7), or a titanium nitride film formed on a bearing surface (25) of a rotating structure (12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the ceramic film or the carbon film or the oxide film or the titanium nitride as taught by Anno to the pressure side thread surfaces of one or both of said screw and said nut in the modified Yamamoto device, since the use thereof would provide an durable valve lash adjuster, to be workable in an environment containing organic molybdenum.

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4. Claims 17, 22, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Nakajima (as applied to claim 14 above), and further in view of Mizuno et al. (JP '938).

The modified Yamamoto device, however, fails to disclose an alternative way of plating on one or both of said adjuster screw and said nut member, or on the pressure side thread surface of one or both of said screw and nut.

The patent to Mizuno on the other hand, teaches that it is conventional in the art of plating, to apply a plating film (9) composed of a Ni-P-PTFE plating and a Ni-P plating to at least a ball screw (5) and a nut (5b).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the Ni-P plating and the Ni-P-PTFE plating as taught by Mizuno to the pressure side thread surface of one or both of said screw and said nut in the modified Yamamoto device, since the use thereof would provide an durable valve lash adjuster, to be workable in an environment containing organic molybdenum.

5. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Nakajima (as applied to claim 14 above), and further in view of Christini et al. (US Patent 3,936,577).

The modified Yamamoto device, however, fails to disclose an alternative way of applying Ni-P plating and a hard particle-dispersed film on one or both of said adjuster

screw and said nut member, or on the pressure side thread surface of one or both of said screw and nut.

The patent to Christini on the other hand, teaches that it is conventional in the art of particulate diamond deposition, to develop a composite deposition process by using a Ni-P plating with particulate diamond dispersed therein.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied the Ni-P plating with dispersed particulate diamond as taught by Christini to the pressure side thread surfaces of one or both of said screw and said nut in the modified Yamamoto device, since the use thereof would provide an durable valve lash adjuster, to be workable in an environment containing organic molybdenum.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Nakajima (as applied to claim 14 above), and further in view of Lust et al. (US Patent 6,592,356).

The modified Yamamoto device, however, fails to disclose chrome nitride being formed on one or both of said adjuster screw and said nut member, or on the pressure side thread surface of one or both of said screw and nut.

The patent to Lust on the other hand, teaches that it is conventional in the molding art, to utilize the power inserts (24, 25) with a surface layer of chrome nitride.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the surface layer of chrome nitride as taught by

Lust to the pressure side thread surfaces of one or both of said screw and said nut in the modified Yamamoto device, since the use thereof would provide an durable valve lash adjuster, to be workable in an environment containing organic molybdenum.

Response to Arguments

7. Applicant's arguments filed on Dec. 20, 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., " As explained in paragraph (0036) of the original specification, the formation of a tribochemical reactive layer between the thread surfaces will therefore be sufficiently suppressed, so that the friction coefficient between the threads of the nut member and the adjuster screw will not decrease below an acceptable level. As such, the adjuster screw will not unintentionally slip within the nut member, and the performance of the lash adjuster will be maintained - even if a motor oil containing organic molybdenum is used. " (See Page 8, Attorney's Remarks), and " As such, the friction coefficient between the threads of the nut member and the adjuster screw will not decrease below a minimally sufficient level so as to avoid slippage. " (See Page 9, Attroney's Remarks)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

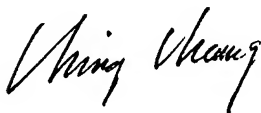
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner



Ching Chang



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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700